hyacinths, but workmen paving the road to let water flow across without miring autos; stream below partly diverted to a tannery.

Rock Port Spring. 1932: small pool with large outrush of clear fresh water close to brink of salt water of harbor opposite quarry, said to have arisen after earthquake of 1907, with *N. punctulata*, on bottom with stones and algae.

(To be continued)

MOLLUSKS OF THE OQUIRRH AND STANSBURY MOUNTAINS IN UTAH

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This study was undertaken in a region that no malacologist would select for good collecting. The object was to find out what was there, if anything. The results have been quite surprising and informative. The comparatively barren Oquirrh and Stansbury Ranges, immediately south of Great Salt Lake, receive very much less precipitation than the Wasatch Range to the east. The vegetation in most places is scanty and of the desert type, which conditions are very unfavorable for mollusks. The study includes the intervening Tooele and Stockton Valleys, also the eastern slopes of the Oquirrh Range in Jordan Valley.

The author has personally collected in all the localities, but was accompanied by one or more persons on each trip, who were the drivers and who also aided in collecting. These persons were, for each locality (as given by number), as follows: Perry Plummer for localities (1), (6), (13), (15), (16), and (17); Frank F. Daughters for (2), (4), and (5); Thomas A. Hopkins for (3), (14), (20), and (21); Thomas Hopkins and Harden Rowland for (4) second time, (18), (19), and (22); and Calvin A. Richins for (7), (8), (9), (10), (11), and (12). Acknowledgment is made to the Zoölogy Department of the University of Utah for financing both trips in which Thomas Hopkins was driver; also on the same trips to the federal student aid (then F.E.R.A.) for driver's compensation. All collections recorded in this article were made in the spring of 1936.

Localities and stations are as given alphabetically below, the numbers being those used in the preceding paragraph, also in the

systematic list that follows: (1) Bingham, Utah—Bingham Canyon, one-half mile below the town, on a rock slide; (2) Cedar Valley, Utah—a station three miles east of town in drift material along a small creek that arose in the Oquirrh Mts.; (3) Clover, Utah—Fisher's Pass, ten miles west of town, between the Stansbury and Onaqui Mts.; (4) Fairfield, Utah—in or near the town; (5) Fairfield, Utah—Five Mile Pass, five miles west of town, on the top of a wind-swept peak to the south of the pass, under cedars; (6) Garfield, Utah—one mile west of the smelter; (7) Grantsville, Utah—southwest edge of town; (8) Grantsville, Utah—one-half mile east of town; (9) Grantsville, Utah—northwest of town, near the point of the Stansbury Mts., on a salt flat in a pool formed by fresh water seepage; (10) Grantsville, Utah—mouth of South Willow Canyon; (11) Grantsville, Utah—South Willow Canyon, four and one-half miles from mouth; (12) Grantsville, Utah—South Willow Canyon, six miles from mouth; (13) Herriman, Utah—Rose Canyon, seven miles from the mouth, near a damp spring-box; (14) Lake Point, Utah—two miles west of Lake Point; (15) Lark, Utah—at the mouth of Butterfield Canyon, in an area partially denuded by fire and overgrazed by sheep, in underbrush; (16) Lark, Utah—Butterfield Canyon, five miles from the mouth, a woodland habitat; (17) Magna, Utah—in and near the town; (18) Mercur, Utah—between Manning Silver Mine and Mercur; (19) Mercur, Utah—one mile west of the old ghost-town ruins of Mercur, which at the time we collected were adjoined by the Mercur mining camp, mostly of tents; (20) Stockton, Utah—three miles south of town at Rush Lake, the remnant of the lake that once filled the valley; (21) Tooele, Utah—in or near town; and (22) West Mercur, Utah—on the road leading to St. Johns, somewhat west of the ghost-town ruins of West Mercur, under a thicket of scrub oak, along a creek arising in the Ophir region of the Oquirrh Mts.

The species obtained are listed in systematic order below:

Pisidium variabile Prime—Locality (4), two valves.
Vallonia pulchella (Müller)—(17), four living specimens.
Vallonia albula Sterki—(7), two shells; (18), one shell; (4), two juvenile specimens, probably of this species; (22), several living specimens.
Vallonia gracilicosta (Reinh.)—(2), five shells.

Oreohelix strigosa depressa (Cockerell)—(19), several shells, one of which approached "form *gabbiana*"; (11), two shells, one of which was high-spired; (1), eight shells, five of which showed two distinct but narrow color bands. All were low-spired but one. This approximated "form *gabbiana*"; (2), one immature shell; (3), several, high-spired specimens, some of which were alive; (15), a few fragments of shells.

Microphysula ingersolli (Bland)—(16), twenty-three living specimens, some of which were juveniles.

Pupilla blandi Morse—(22), one shell; (19), seven specimens, some living; (21), one, living; (5), five adults and twelve juveniles, many of which were alive; mature shells with dentition.

Vitrina alaskana Dall—(15), two shells; (16), eight, living; (11), seven, living; (12), eight, living; (13), two, living; (10), one shell; (19), several, some alive; (18), one shell; (3), several, living; (21), several, living.

Euconulus fulvus alaskensis Pilsbry—(16), two worn shells; (12), one shell; (11), eleven specimens, a few alive; (7), one immature shell.

Zonitoides arboreus (Say)—(15), two worn shells; (16), sixteen specimens, a few alive; (13), four, alive; (11), four shells.

Deroceras agreste (L.)—(21), two living specimens.

Discus cronkhitei (Newcomb)—(3), several living specimens, the body whorls of many very abruptly descending.

Discus cronkhitei anthonyi (Pilsbry)—(16), three shells; (2), two shells.

Stagnicola palustris nuttalliana (Lea)—(8), many dead shells; (20), one shell; (4) several living juveniles.

Fossaria modicella rustica (Lea)—(14), three living specimens.

Fossaria obrussa (Say)—(4), several living specimens.

Gyraulus vermicularis (Gould)—(20), five living specimens; (4), ten living specimens.

Physa ampullacea Gould—(8), two shells; (4), twenty-six living specimens; (20), four living specimens.

Amnicola limosa (Say)—(21), several, alive, shells encrusted with mud; (21), another set, subfossil; (4), two shells, subfossil.

Paludestrina longinqua (Gould)—(13), one shell; (6), many, alive; (9), many, living; (20), many, living.